AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) A polymerization process having the steps of:
forming a coating on a substrate, wherein the coating is a mixture of a solvent, a monomer, an oxidizing agent, and a moderator; and
heating the mixture to initiate oxidative polymerization of the monomer;
wherein the process comprises one or more process conditions selected from the group consisting of:
the solvent having a boiling point in excess of about 120°C; and
the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight.

2. (withdrawn) The process of claim 1, wherein the process comprises the process condition of:
the solvent having a boiling point in excess of about 120°C.

3. (withdrawn) The process of claim 1, wherein the process comprises the process condition of:
the solvent having a boiling point in excess of about 120°C; and
the process does not comprise the process conditions of:
the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight; and
the molar concentration of the moderator being greater than the molar concentration of the monomer.

4. (withdrawn) The process of claim 1, wherein the process comprises the process condition of:
the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight.

5. (withdrawn) The process of claim 1, wherein the process comprises the process condition of:

the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight; and

the process does not comprise the process conditions of:

the solvent having a boiling point in excess of about 120°C; and

the molar concentration of the moderator being greater than the molar concentration of the monomer.

6. (previously presented) The process of claim 1, wherein the process further comprises the process condition of:

the molar concentration of the moderator being greater than the molar concentration of the monomer.

7. (cancelled)

8. (withdrawn) The process of claim 1, wherein the process comprises the process conditions of:

the solvent having a boiling point in excess of about 120°C; and

the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight.

9. (withdrawn) The process of claim 1, wherein the process comprises the process conditions of:

the solvent having a boiling point in excess of about 120°C; and

the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight; and

the process does not comprise the process condition of:

the molar concentration of the moderator being greater than the molar concentration of the monomer.

10. (withdrawn) The process of claim 1,

wherein the process comprises the process condition of the solvent having a boiling point in excess of about 120°C; and

wherein the process further comprises the process condition of the molar concentration of the moderator being greater than the molar concentration of the monomer.

11. (withdrawn) The process of claim 1,

wherein the process comprises the process condition of the solvent having a boiling point in excess of about 120°C;

wherein the process further comprises the process condition of the molar concentration of the moderator being greater than the molar concentration of the monomer; and

wherein the process does not comprise the process condition of the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight.

12. (withdrawn) The process of claim 1,

wherein the process comprises the process condition of the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight; and

wherein the process further comprises the process condition of the molar concentration of the moderator being greater than the molar concentration of the monomer.

13. (withdrawn) The process of claim 1,

wherein the process comprises the process condition of the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight;

wherein the process further comprises the process condition of the molar concentration of the moderator being greater than the molar concentration of the monomer; and

wherein the process does not comprise the process condition of the solvent having a boiling point in excess of about 120°C.

14. (previously presented) The process of claim 1,

wherein the process comprises the process conditions of:

the solvent having a boiling point in excess of about 120°C; and

the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 40% by weight; and

wherein the process further comprises the process condition of the molar concentration of the moderator being greater than the molar concentration of the monomer.

15. (original) The process of claim 1, further comprising the process condition of:

the coating being formed by spin-coating at least about 2000 RPM.

16. (original) The process of claim 15, wherein the spin-coating is done at least about 6000 RPM.

17. (original) The process of claim 1, further comprising the process condition of:

the molar concentration of the oxidizing agent being from about 1.5 to about 3.5 times the molar concentration of the monomer.

18. (original) The process of claim 17, wherein molar concentration of the oxidizing agent is from about 1.75 to about 2 times the molar concentration of the monomer.

19. (original) The process of claim 1, wherein the process conditions are determined such that the resulting polymer has a conductivity of at least about 10 S/cm and a transparency of at least about 30%.

20. (original) The process of claim 19, wherein the polymer has a conductivity of at least about 500 S/cm and a transparency of at least about 70%.

21. (original) The process of claim 19, wherein the polymer has a conductivity of at least about 750 S/cm and a transparency of at least about 85%.

22. (original) The process of claim 1, wherein the solvent is an alcohol

23. (original) The process of claim 1, wherein the solvent is selected from the group consisting of 2-butanol, 2-methoxy-1-ethanol, 1-pentanol, and 1-hexanol.

24. (original) The process of claim 1, wherein the monomer is capable of polymerization to form a conductive polymer.

25. (original) The process of claim 1, wherein the monomer is an ethylene dioxythiophene.

26. (original) The process of claim 1, wherein the monomer is unsubstituted ethylene dioxythiophene.

27. (original) The process of claim 1, wherein the oxidizing agent is a transition metal salt.

28. (original) The process of claim 1, wherein the oxidizing agent is iron (III) tosylate.

29. (original) The process of claim 1, wherein the moderator is a tertiary amine.

30. (original) The process of claim 1, wherein the moderator is selected from the group consisting of imidazole, pyridine, and triethyl amine.

31. (withdrawn) The process of claim 1, wherein the total concentration of the monomer, the oxidizing agent, and the moderator being at least about 60% by weight.

32. (original) The process of claim 1, wherein the molar concentration of the moderator is at least about 2 times the molar concentration of the monomer.